IT IS CLAIMED:

1. A method of processing an audio signal, comprising modifying the audio signal in a manner that does not change a perception of the signal by a human ear when the signal is reproduced after such modification but which causes the signal to be altered by compression such that a reduced quality is perceivable by the human ear in a sound signal reproduced from a decompressed version of the compressed signal.

2. The method of claim 1, additionally comprising recording the modified signal in a storage media.

3. The method of claim 2, wherein recording the modified signal in a storage media includes optically recording the modified signal on a optical disk.

4. The method of claim 3 wherein the modified signal is recorded on a Compact Disc.

5. The method of claim 3 wherein the modified signal is recorded on a Digital Video Disc.

6. The method of claim 2 wherein recording the modified signal in a storage media includes recording the modified signal on an audio tape cassette.

7. The method of claim 2, wherein recording the modified signal in a storage media includes electronically recording the modified signal in a non-volatile semiconductor memory card.

8. The method of claim 2, wherein recording the modified signal in a storage media includes optically recording the modified signal on motion picture film.

9. The method of claim 1, wherein modifying the signal includes increasing levels of certain frequency components of the audio signal.

10. The method of claim 1, wherein modifying the signal includes ascertaining spectral distributions of temporally successive blocks of data of the audio signal, determining masking functions for individual ones of the spectral distributions of data, an individual masking function defining upper levels of frequency components of its associated block of data to which the perception of the signal by the human ear will not change, and increasing the levels of at least some of the frequency components of the spectral distributions below their respective masking functions.

11. The method of claim 1, wherein the audio signal includes at least first and second channel signals , and wherein modifying the signal includes altering a relationship between said at least first and second channel signals.

12. The method of claim 11, wherein altering relationships includes altering timing or phase relationships between said at least first and second channel signals.

13. The method of claim 11, wherein modifying the signal additionally includes utilizing the relationship between said at least first and second channel signals to unmask components of the audio signal that are masked.

14. A method of compressing an audio signal, comprising modifying the audio signal in a manner that does not change a perception of the

signal by a human ear when a compressed version of the modified signal is decompressed but which causes a reduced quality to be perceivable by the human ear if the decompressed signal is thereafter compressed and decompressed a second time.

15. The method of claim 14, additionally comprising recording the modified signal in a storage media.

16. The method of claim 15, wherein recording the modified signal in a storage media includes optically recording the modified signal on a optical disk.

17. The method of claim 16 wherein the modified signal is recorded on a Compact Disc.

18. The method of claim 16 wherein the modified signal is recorded on a Digital Video Disc.

19. The method of claim 15 wherein recording the modified signal in a storage media includes recording the modified signal on an audio tape cassette.

20. The method of claim 15, wherein recording the modified signal in a storage media includes electronically recording the modified signal in a non-volatile semiconductor memory card.

21. The method of claim 15, wherein recording the modified signal in a storage media includes optically recording the modified signal on motion picture film.

22. The method of claim 14, wherein modifying the audio signal includes adding noise or other data thereto.

23. The method of claim 14, wherein modifying the audio signal includes altering timing of processing of defined time sequential blocks of data of the audio signal that occurs as part of the compression.

24. The method of claim 14, wherein modifying the audio signal is accomplished by a sealed signal processor included in an appliance adapted to receive the audio signal in a compressed form from a communication network, wherein the audio signal is first decompressed by the processor, whereby any further compression of the recorded modified signal for re-sending over the communication network will result in a decompression of the modified signal by a recipient reproducing the signal with reduced quality that is perceivable by the human ear.

25. The method of claim 24, wherein the communication network includes the Internet.

26. The method of either of claims 1 or 14, wherein modifying the audio signal includes adjusting a modification as a function of at least one characteristic of the audio signal.

27. A method of processing an audio signal, comprising:

ascertaining spectral distributions of temporally successive blocks of data of the audio signal,

determining masking functions for individual ones of the spectral distributions of data, an individual masking function defining upper levels of frequency components of its associated block of data to which a human ear will not respond, and

increasing amplitudes of at least some of the frequency components of the spectral distributions to levels equal to or less than their respective masking functions to produce a signal that is not perceived by the human ear to be changed but is characterized by, when compressed by allocating bits to frequency components above masking functions defining upper levels of frequency components to which the human ear will not respond, producing a reproduction of the audio signal upon decompression with changes that are perceivable by the human ear.

28. The method of claim 27, wherein increasing amplitudes of at least some of the frequency components of the audio signal includes adding noise that is uncorrelated with the audio signal.

29. The method of claim 27, wherein increasing amplitudes of at least some of the frequency components of the audio signal includes adding another signal that is uncorrelated with the audio signal.

30. The method of claim 27, wherein increasing amplitudes of at least some of the frequency components of the audio signal includes multiplying the levels thereof by factors which increase the amplitudes of these frequency components to levels equal to or less than their respective masking functions.

31. The method of claim 27, wherein increasing amplitudes of at least some of the frequency components of the audio signal is accomplished within a sealed signal processor included in an appliance adapted to receive the audio signal in a compressed form from a communication network, wherein the audio signal is first decompressed by the processor, whereby any further compression of the audio signal for re-sending over the communication network will result in a degraded signal after decompression of the re-sent signal.

32. The method of claim 31, wherein the communication network includes the Internet.

33. An audio signal comprising components of audio content and intentionally altered components of the audio content, wherein the altered components of the audio content are not perceived by the human ear when the audio signal is reproduced but would be perceived by a human ear after decompression of a compressed version of the audio signal that reproduces a degraded version of the audio content.

34. The audio signal of claim 33, wherein the altered audio signal components include increased levels of certain frequency components of the audio content signal component below levels that are masked by the human ear.

35. The audio signal of either of claims 33 or 34 recorded on storage media selected from a group of a computer disk, a Compact Disc, a Digital Video Disc, an audio tape cassette, a motion picture film or a non-volatile semiconductor memory card.

36. A compressed version of an audio signal comprising a compressed version of audio content and intentionally altered components of the audio content, wherein the altered components of the audio content are not perceived by the human ear when the audio signal is decompressed from the compressed version but would be perceived by a human ear after decompression of a further compressed version of the decompressed audio signal.

37. The compressed version of an audio signal according to claim 36 that is recorded on storage media selected from a group of a computer disk, a Compact Disc, a Digital Video Disc, an audio tape cassette, a motion picture film or a non-volatile semiconductor memory card.

38. A signal processing device, comprising a processor and a memory containing controlling software, the controlling software causing the processor to modify an input audio content signal to produce a modified output signal in which the modifications to the audio content signal are not perceived by the human ear but which, if the output signal were to be compressed and then decompressed, would include significant changes perceived by the human ear in the decompressed signal.

39. The signal processing device of claim 38, wherein the processor and memory are contained within a physically sealed module.

40. The signal processing device of claim 39, wherein the module is in the form of a card that is removably insertable into a sound reproducing device.

41. The signal processing device of claim 40, wherein the module additionally includes decryption software that controls the processor to decrypt the input audio content signal before increasing the levels of frequency components thereof.

42. The signal processing device of claim 38, wherein the controlling software causes the processor to modify the input audio content by increasing levels of frequency components thereof.

43. The signal processing device of claim 38, wherein the controlling software causes the processor to modify the input audio content by adding noise or other data thereto.

44. A method of processing an original audio signal, comprising adding to said original signal a replica of one or more frequency bands of the original

signal that is time synchronized with respect to the original signal, thereby obtaining a processed audio signal from which a human ear cannot perceive the presence of the replica but wherein a compression of the processed audio signal causes a sound signal decompressed therefrom to be altered from the original signal by the compression such that the sound signal has a reduced quality that is perceivable by the human ear.

45. The method of claim 44 in which said replica of the original signal is added to the original signal at an amplitude level which follows the masking curve defined by the frequency components of the original signal.

46. The method of claim 44 in which the frequency bands of the replica are chosen based on the number of bits required by said frequency band for accurate representation of the original signal in a compressed version of the original signal.

47. The method of claim 44 in which said frequency bands comprising said replica are position shifted in time by one or more clock cycles with respect to the original signal and added to the original signal.

48. A method of processing an audio signal of two or more channels, comprising modifying phase relationships of audio signals that appear in said two or more audio channels in a manner that does not change a perception of the signal by a human ear when the signal is reproduced after such modification but which causes the signal to be altered by compression such that reduced quality is perceivable by the human ear in a sound signal reproduced from a decompressed version of the compressed signal.

49. The method of claim 48 in which said phase relationship modification includes a fixed phase change of the audio signal appearing in one channel with respect to the audio signal appearing in another channel.

50. The method of claim 49 in which said phase relationship modification comprises a fixed phase change of 180 degrees.

51. The method of claim 48 in which said phase relationship modification is different for different frequencies appearing in the signals of each of the two or more channels of said audio signal to be processed.

52. The method of claim 48 in which said phase relationship modification varies as a function of time.

53. The method of claim 52 in which said phase relationship modification varies at a frequency below or above the highest or lowest frequency the human ear can detect.

54. A method of processing a two channel audio signal, comprising reversing the phase of one channel of said two channel audio signal with respect to the phase of the other channel and embedding in phase data of one or more frequencies in each of said two audio channels with an amplitude below a masking threshold set by the audio data in each channel, in a manner causing the human ear to not perceive the presence of said embedded data when the signal is reproduced after such modification but which causes the processed signal to be altered by compression such that a reduced quality is perceivable by the human ear in a sound signal reproduced from a decompressed version of the compressed signal.

55. The method of claim 54 in which said phase reversal is over a range of frequencies.

56. The method of claim 55 in which said phase reversal is over one or more bands of frequencies.

57. A method of processing an audio signal including audio data in at least two channels, comprising embedding like data of one or more frequencies and of opposite phase in the audio data of each of said at least two channels with amplitudes of the embedded data being below a masking threshold set by the audio data in each channel such that the human ear cannot perceive the presence of said processing in the audio signal but which causes the processed signal to be altered by a compression process such that reduced quality is perceivable by the human ear in a sound signal reproduced from a decompressed version of a compressed signal

58. The method of claim 57 in which said processing includes an absolute value addition of one or more of the frequency components in the audio data of each of said at least two channels in order to reduce a rate of data of the compressed signal.

59. The method of claim 57 in which said embedded data occurs at various times throughout said two channel audio signal and is not continuous.

60. A method of compressing an audio signal, comprising modifying the audio signal by adding artifacts thereto such that the human ear cannot perceive the presence of the artifacts in a sound signal decompressed from a compressed version of the modified audio signal but can perceive the presence of artifacts if said decompressed sound signal is thereafter compressed and decompressed.

61. A method of compressing and decompressing an audio signal, comprising using a non-linear quantizer adjusted to quantize individual frequency

components of said audio signal such that the human ear cannot perceive the presence of quantizing errors after the audio signal is compressed and decompressed but that quantizing errors introduced by a second audio compression and decompression processes will be above a masking threshold of said audio signal and be audible to a listener.

62. A method of compressing and decompressing an audio signal, comprising adding to said audio signal audio data or noise bursts of short duration which occur randomly in time or at predetermined time intervals, such that the human ear cannot perceive the presence of the audio data or noise bursts after said audio signal is compressed and decompressed but can perceive the presence of the audio data or noise bursts if said decompressed audio signal is compressed and decompressed for a second time

63. The method of claim 62 in which said short duration audio data or noise bursts are less than 20 milliseconds in duration.

64. The method of claim 62 in which said short duration audio data or noise bursts include frequency components masked by other frequency components present in said audio signal.

65. A method of compressing and decompressing an audio signal, comprising inserting added noise or data at locations in said audio signal being compressed which is synchronized with a sample block size and a sample block timing used as part of the compression process, such that the human ear cannot perceive the presence of the added noise or data after said audio signal is compressed and decompressed by said method but can perceive the presence of the noise or data if said decompressed audio signal is compressed and decompressed for a second time.

66. The method of claim 65 in which said added noise or data is masked by the audio data present in said audio signal begin compressed.

67. The method of claim 65 in which said added noise or data is tailored such that the audio data present in said audio signal being compressed, occurs immediately before and immediately after said added data, masks the audibility of the added noise or data.

68. The method of claim 65 in which said added noise includes frequency elements masked by frequency elements in said audio data being compressed.

69. The method of claim 65 in which a varying sample block size is used during the compression process and data regarding this varying block size is provided to a decompression decoder.

70. The method of claim 65 in which data regarding where said added noise or data is inserted into said audio stream is provided to a decompression decoder.

71. The method of any one of claims 44, 48, 54, 57, 60, 61, 62, or 65 in which a process employed with the audio signal includes one or more algorithms that are adjusted during their application as a function of a characteristic of the audio signal being processed.

72. The method of claim 71 in which said adjustment includes selecting from a multiple of processing algorithms.

73. The method of claim 71 in which said adjustment takes the form of a modification of processing parameters of said one or more algorithms.

74. The method of claim 71 in which said adjustment takes the form of a modification of a function of said one or more algorithms.

75. The method of claim 71 in which said input audio signal characteristic is the amplitude and timing of said input audio signals' frequency components.

76. The method of claim 71 in which said input audio signal is multichannel and said signal characteristic is the relationship between audio data present in these channels.

77. A method of processing a single audio selection, title or song, comprising. using multiple processing such that such processing is not perceivable by the human ear unless said single audio selection title or song is compressed and decompressed at which time said single audio selection, title or song is reproduced with reduced quality which is perceivable by the human ear.

78. A method of processing a single audio selection, title or song, comprising using multiple processing methodologies in a manner that such processing is not perceivable by the human ear unless said single audio selection title or song is compressed and decompressed at which time said single audio selection, title or song is reproduced with reduced quality which is perceivable by the human ear.

79. A method of processing a single audio selection, title or song during the process of compressing and decompressing said single audio selection title or song, comprising using multiple processing methodologies such that the processing is not perceivable by the human ear when the decompressed version of the compressed single audio selection, title or song is listened to but is perceivable

by the human ear if said decompressed version of said single audio selection title or song is compressed and decompressed, whereby said single audio selection, title or song is reproduced with reduced quality.